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Frequently Asked Questions

Who Created the Game and Why?

CDC developed the *Health Run* game for those wanting to experience, for themselves, the possibility of transforming the troubled U.S. health system. It is intended to be used—with a trained facilitator—as a resource for multi-stakeholder visioning, strategy design, and leadership development.

How will the Game be Used?

CDC plans to use—and continually refine—the game in support of the Healthiest Nation initiative (http://www.healthiestnation.org). The game provides an explicit basis for *Wayfinding Dialogues* in which stakeholders across the country consider what they can do to help steer a course toward a healthier, more equitable, and more prosperous future.

Who are the Intended Players?

Anyone who aspires to lead change either on a national scale or in their own communities may benefit by first testing and refining their ideas in this realistic, but simplified version of the U.S. health system.

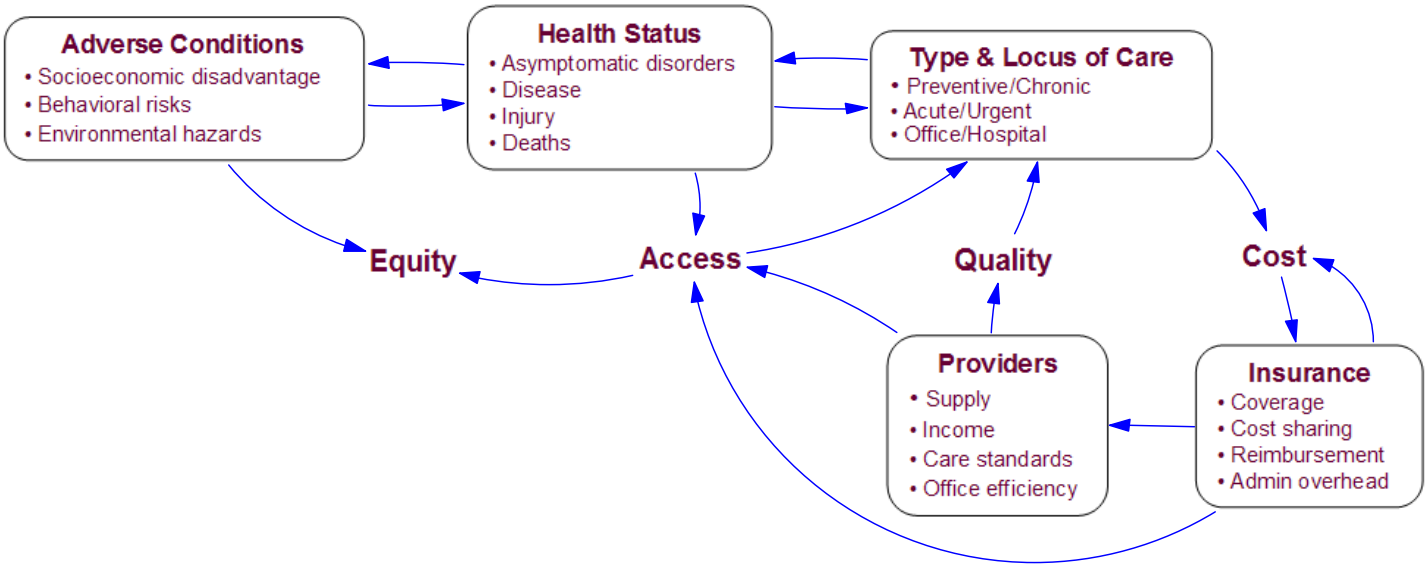
What Can Players Learn?

The game supports both cognitive and experiential learning. It teaches essential lessons about how the health system works and establishes a productive frame for finding a viable way forward. Players may play out popular proposals, explore new ideas, rule out ineffective strategies, and gather support for more promising scenarios. But simulating interventions and seeing their effects is only part of the experience. Even deeper insight comes from learning why and how our complicated health system behaves the way it does. Players may interact with and learn from the game—and more importantly, from each other.

What Factors are Included in the Game?

All patterns observed in the game arise from interactions among different parts of the health system. Figure 1 shows which elements make up the game's health system and how they are connected. Below that, is a more detailed description of how the game is designed, including a map of its major causal pathways (Figure 2). That figure shows where each intervention option fits within the larger health system.

Figure 1: Major Elements Represented in the *Health Run* Game (version 4d)

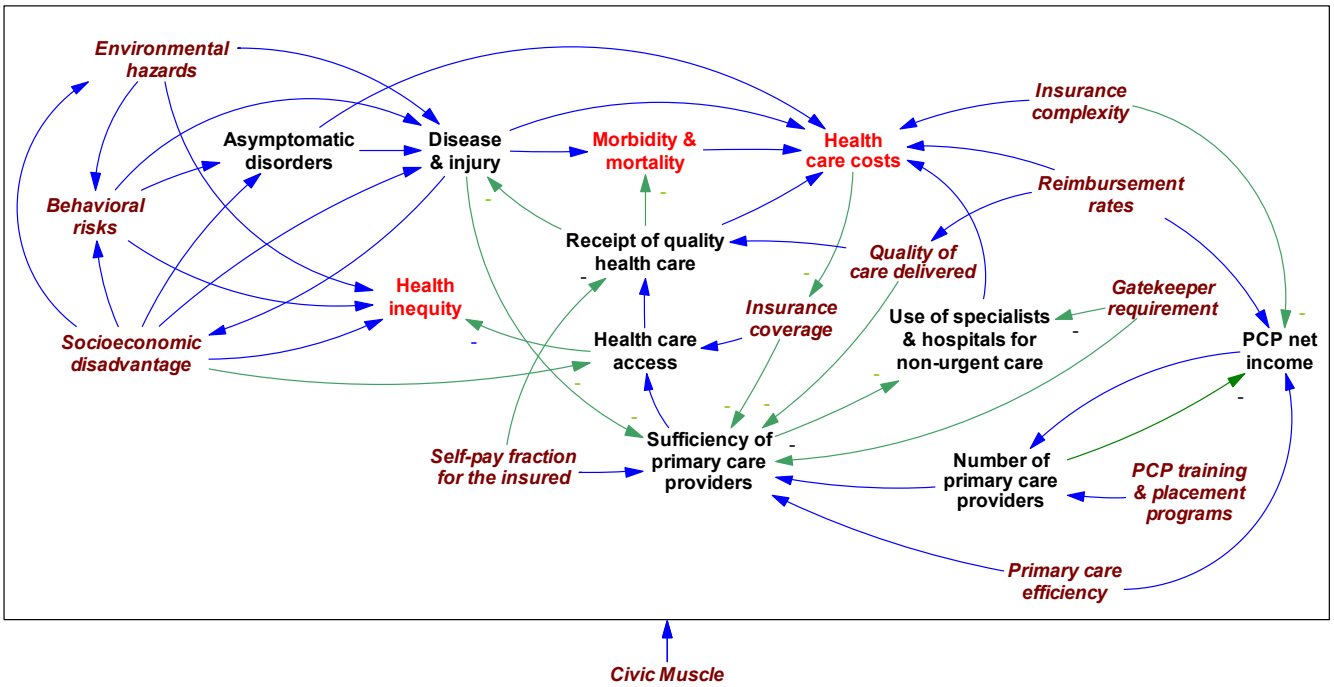


Many variables in the game are tracked separately by socioeconomic status, including those related to behavioral risks, environmental hazards, health status, type and locus of care received, the number primary care providers, access to health care, insurance coverage, and cost sharing.

The game's simulator tracks the entire U.S. population and its movement among states of health, risk behavior, environmental exposures, and socioeconomic advantage or disadvantage. Disadvantage makes it harder for people to choose healthier behaviors and exposes them to more hazardous environments, leaving them more vulnerable to an array of afflictions that increase aggregate disease prevalence. The disadvantaged also have worse access to health care than do the advantaged, due to less insurance coverage and less sufficiency of providers to meet patient demand. Greater disease prevalence combined with worse access to care means that the disadvantaged experience greater morbidity and mortality per capita than the advantaged do. Another factor affecting health outcomes is the quality of care delivered, reflecting the extent to which providers take the time to listen carefully to their patients and do a better job of diagnosis, counseling, and care. Quality of care may be improved by encouraging adoption of guidelines for best practice, but the incentive for such adoption is hindered if insurance reimbursement rates are not adequate.

Figure 2 shows the main features of the health system that are included in the game's design. It is a broad summary of the game's causal structure, which actually contains several hundred interacting elements. Two facts are immediately obvious: (1) all parts of the system—so often considered separately—are causally connected; and (2) there are more processes at work—and more intervention options available—than one might infer from many discussions of health care reform.

Figure 2 Major Causal Relationships in the *Health Run* Game (version 4d)



The main values (or outcomes) at stake in any scenario for change are shown in red and bolded (i.e., health status, health inequity, and health care costs). Brown italics indicate the broad classes of potential intervention (e.g., players may choose to expand insurance coverage, reduce behavioral risks, or alter any of the other italicized factors, either alone or in combination). Blue arrows indicate same-direction effects (e.g., more environmental hazards lead to more disease and injury). Green arrows indicate opposite-direction effects (e.g., greater sufficiency of primary care providers leads to less use of specialists and hospitals for non-urgent care).

What Factors are Left Out of the Game?

A number of factors were excluded from the game on the premise that our health system would remain troubled even if certain ongoing trends were somehow frozen or eliminated. These include the adoption of new technologies, the "tug of war" over billing between insurers and providers, population growth and aging, the rise of defensive medicine, globalization of the medical marketplace, the medicalization of common ailments through direct-to-consumer advertising, increasing regulations on tobacco use, and trends in employment, transportation, recreational options, and food options. We have previously shown how some of these factors can create instability in the health system and cause costs to grow (see Homer, Hirsch, Milstein 2007). But, for the game, we defined a system starting in a dynamic equilibrium, with all outcome variables sitting close to where they were in real life around the year 2003—and unchanging. Players must identify the most powerful drivers of system behavior and use that knowledge to move from an initially undesirable state toward one that is healthier, more equitable, and more cost-effective. This setup—where many features are intentionally held constant—allows us to rest the game on processes that are less transitory and lets players better understand the results of their decisions.

What Information Sources Were Used?

The game integrates data and findings from earlier studies on factors affecting health system performance (see below). Because its broad sweep, most variables are defined at a high level of aggregation. For example, the game does not consider individual types of disease or injury, but rather combines them all into a single measure of prevalence based on national surveys of self-rated health status. Such self-report metrics have been shown to be reliable predictors of health service utilization and health outcomes. In general, quantification of the prototype model is based on a variety of publicly available data from the Census, Vital Statistics, national health surveys, the National Health Expenditures database, and studies from the professional literature on health care utilization and programmatic impact. We expect to refine some concepts and estimates as we gather more information from research studies and from subject matter experts, but aggregated representations will always be necessary to make the analysis tractable and consonant with available data.

Below is a list of the main data sources and influential references that were used to formulate the current model. A detailed Reference Guide is being developed to provide a narrative explanation of the model's structure and numerical assumptions.

Databases

- Behavioral Risk Factor Surveillance System
- National Ambulatory Medical Care Survey
- National Health Expenditure Accounts
- National Health Interview Survey
- National Health and Nutrition Examination Survey
- National Hospital Discharge Survey
- National Vital Statistics Reports
- U.S. Census

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Where Can I Get More Information?

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